

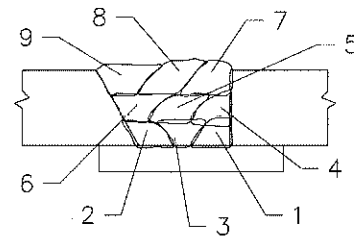
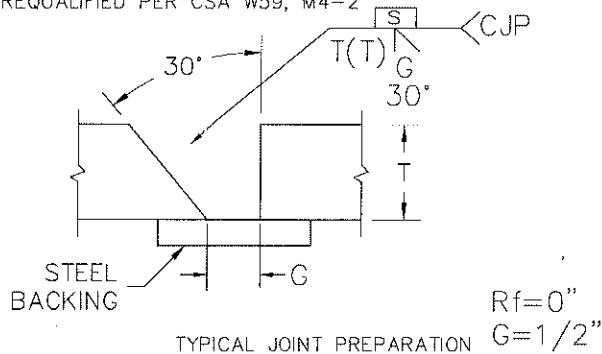
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO.	CS-M-4-1F	REV.	0
Date:	JAN 2010	CSA	W17.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position FLAT Cleaning Requirements WIRE BRUSH, GRINDING
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic		
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		

PREQUALIFIED PER CSA W59, M4-2



COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____		JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 	Shielding Gas 	Electrical Stickout 	
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other
5/16"	5/16"	1-3	1-9	1/8"	DCRP	130		24	7 IPM		
3/8"	3/8"	1-3	1-9	1/8"	DCRP	130		24	6 IPM		

Remarks	CWB Acceptance	Engineer's Approval
		<div style="transform: rotate(-30deg); font-size: 2em; opacity: 0.5;">SAMPLE</div>

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

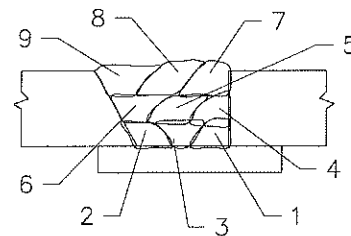
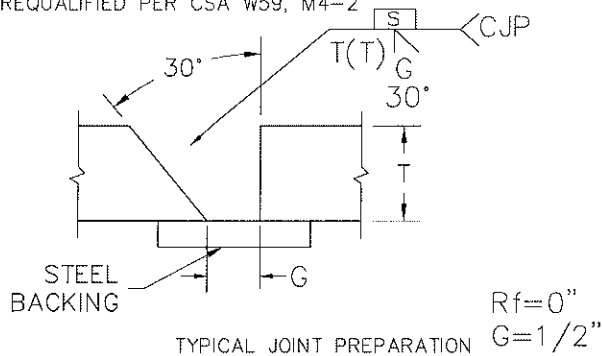
NO. CS-M-4-2F REV. 0

Date: JAN 2010 CSA W47.1

Wldg. Procedure Specification No. SMA-CS

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Applicable Standards W47.1, W59
Tungsten Type			Electrode (Wire) Classification E4918/E7018
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic			Trade Name
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59			Shielding Gas
Tungsten Size			Preheat Temp. AS PER W59 TABLE 5.3
Welding Position FLAT			Min. Interpass Temp. AS PER W59 TABLE 5.3
Cleaning Requirements WIRE BRUSH, GRINDING			Max. Interpass Temp. 500°F

PREQUALIFIED PER CSA W59, M4-2



COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal	<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____	JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE	Nozzle Size	Shielding Gas	Electrical Stickout
--	--	---	--------------------	----------------------	----------------------------

Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other
5/16"	5/16"	1-3	1-9	3/32"	DCRP	100		22	3.4 IPM		
3/8"	3/8"	1-3	1-9	3/32"	DCRP	100		22	3.5 IPM		

Remarks	CWB Acceptance	Engineer's Approval

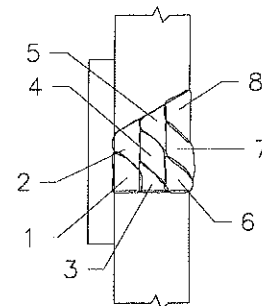
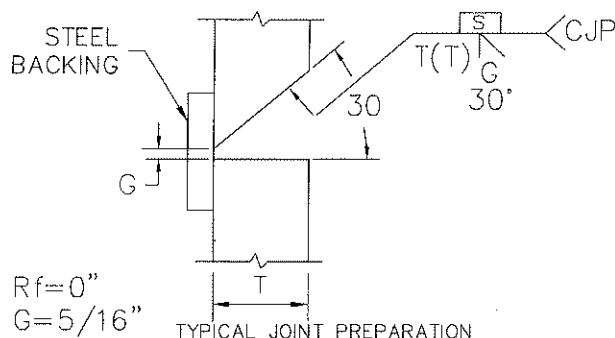
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO.	CS-M-4-1H	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position HORIZONTAL
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Cleaning Requirements WIRE BRUSH, GRINDING	
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		

PREQUALIFIED PER CSA W59, M4-2



COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____			JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size	Shielding Gas	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other
5/16"	5/16"	1-3	1-6	1/8"	DCRP	130		24	7 IPM		
3/8"	3/8"	1-3	1-8	1/8"	DCRP	130		24	6 IPM		

Remarks	CWB Acceptance	Engineer's Approval

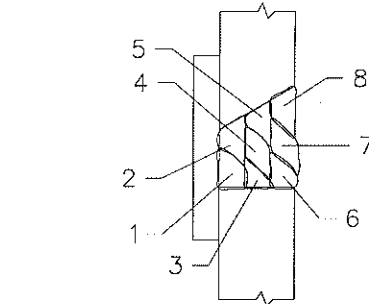
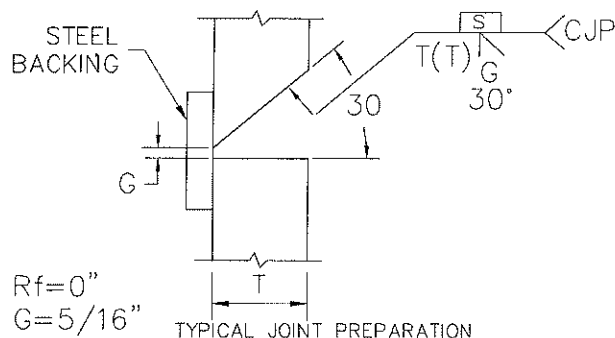
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO. CS-M-4-2H	REV. 0
Date: JAN 2010	CSA W47.1
Wldg. Procedure Specification No. SMA-CS	
Applicable Standards	W47.1, W59
Electrode (Wire) Classification	E4918/E7018
Trade Name	
Shielding Gas	
Preheat Temp.	AS PER W59 TABLE 5.3
Min. Interpass Temp.	AS PER W59 TABLE 5.3
Max. Interpass Temp.	500°F

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position HORIZONTAL
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Cleaning Requirements WIRE BRUSH, GRINDING	
Base Metal Alloy Group/Type STEEL GROUPS, 1, 2 & 3 TABLES 11.1 & 12.1 CSA W59		

PREQUALIFIED PER CSA W59, M4-2



COMPLETE JOINT PENETRATION GROOVE WELD				<input type="checkbox"/> FILLET WELD			JOINT TYPE		Nozzle Size	Shielding Gas	Electrical Stickout
<input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD			<input type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE				
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other
5/16"	5/16"	1-3	1-6	3/32"	DCRP	100		22	3.6 IPM		
3/8"	3/8"	1-3	1-8	3/32"	DCRP	100		22	3.5 IPM		

Remarks	CWB Acceptance	Engineer's Approval

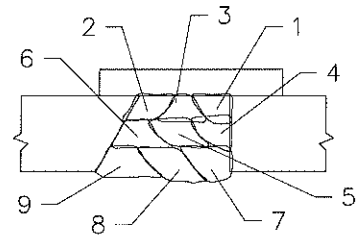
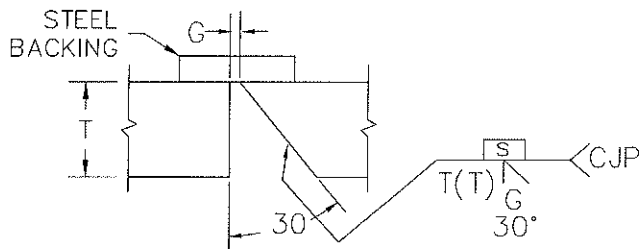
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO.	CS-M-4-1V	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic		
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		
Tungsten Type Tungsten Size Welding Position VERTICAL UP Cleaning Requirements WIRE BRUSH, GRINDING		

PREQUALIFIED PER CSA W59, M4-2



Rf=0"
G=1/2"

TYPICAL JOINT PREPARATION

TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size	Shielding Gas	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
5/16"	5/16"	1-3	1-9	1/8"	DCRP	110		24	4 IPM			
3/8"	3/8"	1-3	1-9	1/8"	DCRP	110		24	4 IPM			
Remarks				CWB Acceptance					Engineer's Approval			
									<div style="transform: rotate(-45deg); font-size: 2em; opacity: 0.5;">SAMPLE</div>			

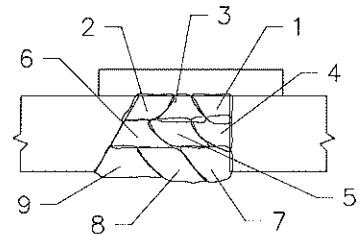
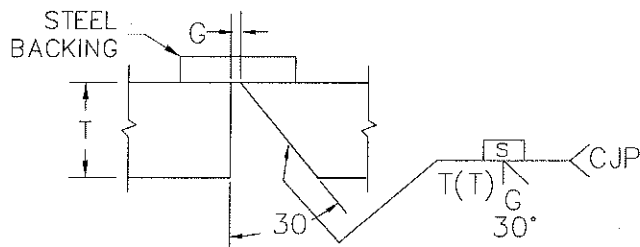
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO.	CS-M-4-2V	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.	SMA-CS		
Applicable Standards	W47.1, W59		
Electrode (Wire) Classification	E4918/E7018		
Trade Name			
Shielding Gas			
Preheat Temp.	AS PER W59 TABLE 5.3		
Min. Interpass Temp.	AS PER W59 TABLE 5.3		
Max. Interpass Temp.	500°F		

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Tungsten Size 	Welding Position VERTICAL UP
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59	Cleaning Requirements WIRE BRUSH, GRINDING	

PREQUALIFIED PER CSA W59, M4-2



Rf=0"

G=1/2"

TYPICAL JOINT PREPARATION

TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 	Shielding Gas 	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
5/16"	5/16"	1-3	1-9	3/32"	DCRP	100		22	3.4 IPM			
3/8"	3/8"	1-3	1-9	3/32"	DCRP	100		22	3.5 IPM			

Remarks 	CWB Acceptance 	Engineer's Approval
	<div style="text-align: center; font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">SAMPLE</div>	

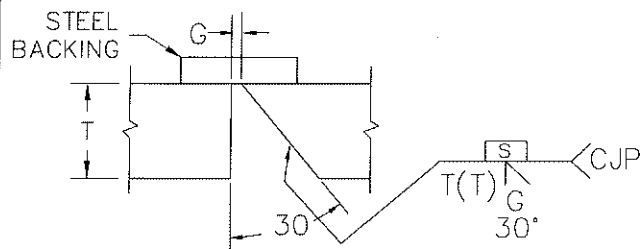
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO.	CS-M-4-10	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

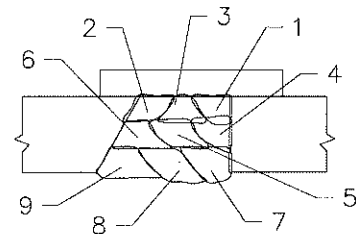
Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed	<input type="checkbox"/> Pulsed
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic		Tungsten Type Tungsten Size Welding Position: OVERHEAD
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		Cleaning Requirements WIRE BRUSH, GRINDING

PREQUALIFIED PER CSA W59, M4-2



Rf=0"
G=1/2"

TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size	Shielding Gas	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
5/16"	5/16"	1-3	1-9	1/8"	DCRP	130		24	4 IPM			
3/8"	3/8"	1-3	1-9	1/8"	DCRP	130		24	4 IPM			

Remarks	CWB Acceptance	Engineer's Approval

SAMPLE

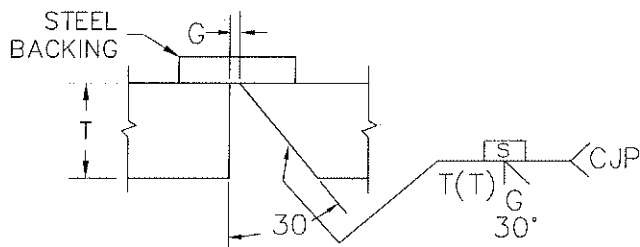
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO.	CS-M-4-20	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

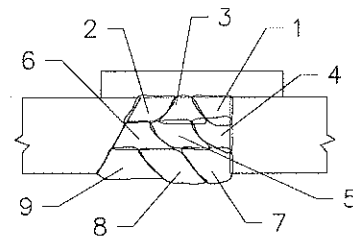
Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position OVERHEAD
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59	
Cleaning Requirements WIRE BRUSH, GRINDING		

PREQUALIFIED PER CSA W59, M4-2



Rf=0"
G=1/2"

TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 	Shielding Gas 	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
5/16"	5/16"	1-3	1-9	3/32"	DCRP	100		22	3.4 IPM			
3/8"	3/8"	1-3	1-9	3/32"	DCRP	100		22	3.5 IPM			
Remarks 				CWB Acceptance 					Engineer's Approval 			

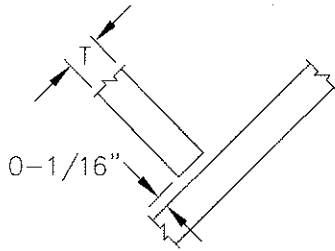
SAMPLE

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

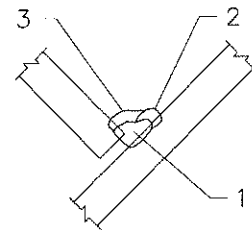
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-1F	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position FLAT
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59	
Cleaning Requirements WIRE BRUSH, GRINDING		



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

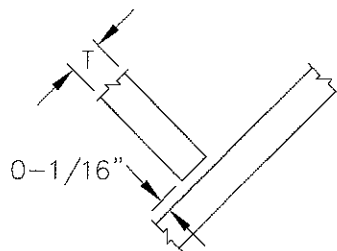
COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size	Shielding Gas	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
	3/16"	1	1	1/8"	DCRP	130		24	5 IPM			
	1/4"	1	1	1/8"	DCRP	130		24	4 IPM			
	5/16"	1	1	1/8"	DCRP	130		24	6 IPM			
		2	2-3	1/8"	DCRP	130		24	6 IPM			
	3/8"	1	1	1/8"	DCRP	130		24	6 IPM			
		2	2-3	1/8"	DCRP	130		24	6 IPM			
	1/2"	1-2	1-3	1/8"	DCRP	130		24	5 IPM			
Remarks				CWB Acceptance					Engineer's Approval			
									<div style="transform: rotate(-30deg); font-size: 2em; opacity: 0.5;">SAMPLE</div>			

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

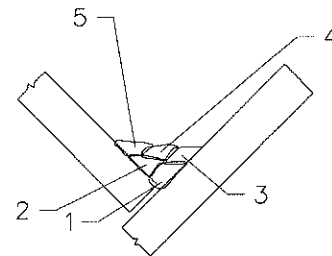
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-2F	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Tungsten Size 	Welding Position FLAT
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59	Cleaning Requirements WIRE BRUSH, GRINDING	



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 	Shielding Gas 	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
	3/16"	1	1	3/32"	DCRP	100		22	3 IPM			
	1/4"	1	1	3/32"	DCRP	100		22	2.4 IPM			
	5/16"	1	1	3/32"	DCRP	100		22	3 IPM			
		2	2-3	3/32"	DCRP	100		22	3 IPM			
	3/8"	1	1	3/32"	DCRP	100		22	3 IPM			
		2	2-3	3/32"	DCRP	100		22	3 IPM			
	1/2"	1-3	1-5	3/32"	DCRP	100		22	3 IPM			
Remarks 				CWB Acceptance 					Engineer's Approval 			

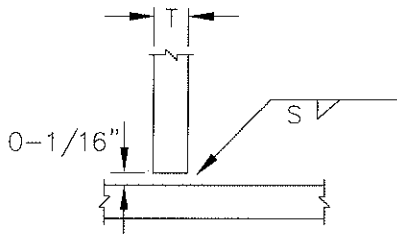
SAMPLE

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

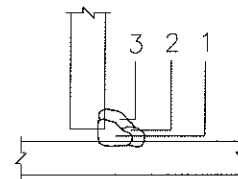
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-1H	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards	W47.1, W59		
Electrode (Wire) Classification	E4918/E7018		
Trade Name			
Shielding Gas			
Preheat Temp.	AS PER W59 TABLE 5.3		
Min. Interpass Temp.	AS PER W59 TABLE 5.3		
Max. Interpass Temp.	500°F		

Welding Process	<input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Mode	<input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Tungsten Type	
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 & 3 TABLES 11.1 & 12.1 CSA W59		Tungsten Size	
		Welding Position	HORIZONTAL
		Cleaning Requirements	WIRE BRUSH, GRINDING



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

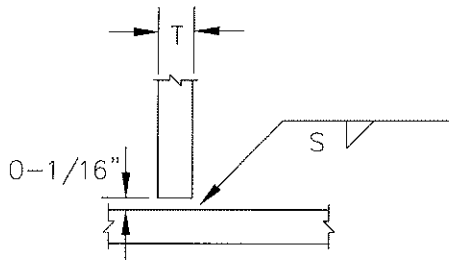
COMPLETE JOINT PENETRATION GROOVE WELD				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE		Nozzle Size	Shielding Gas	Electrical Stickout	
<input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal								<input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE					
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (Inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other		
	3/16"	1	1	1/8"	DCRP	130		24	5 IPM				
	1/4"	1	1	1/8"	DCRP	130		24	4 IPM				
	5/16"	1	1	1/8"	DCRP	130		24	6 IPM				
		2	2-3	1/8"	DCRP	130		24	6 IPM				
	3/8"	1	1	1/8"	DCRP	130		24	6 IPM				
		2	2-3	1/8"	DCRP	130		24	6 IPM				
	1/2"	1-2	1-3	1/8"	DCRP	130		24	5 IPM				
Remarks				CWB Acceptance						Engineer's Approval			
										<div style="text-align: center; font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">SAMPLE</div>			

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

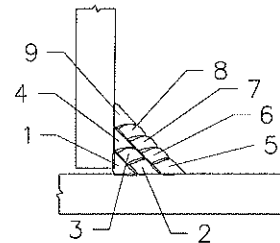
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-2H	REV.	0
Date:	JAN 2010	CSA	W47.1
Wdg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position HORIZONTAL
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Cleaning Requirements WIRE BRUSH, GRINDING	
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

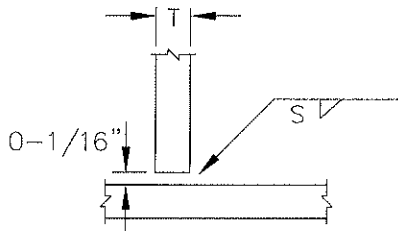
COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size	Shielding Gas	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
5/8"		1	1	1/8"	DCRP	130		24	8 IPM			
		2,3	2-6	1/8"	DCRP	130		24	8 IPM			
3/4"		1	1	1/8"	DCRP	130		24	5 IPM			
		2,3	2-9	1/8"	DCRP	130		24	5 IPM			
Remarks				CWB Acceptance					Engineer's Approval			
									<div style="transform: rotate(-30deg); font-size: 2em; opacity: 0.5;">SAMPLE</div>			

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

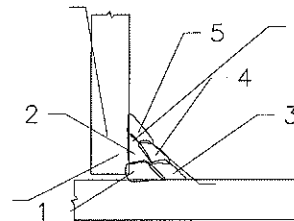
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-3H	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards	W47.1, W59		
Electrode (Wire) Classification	E4918/E7018		
Trade Name			
Shielding Gas			
Preheat Temp.	AS PER W59 TABLE 5.3		
Min. Interpass Temp.	AS PER W59 TABLE 5.3		
Max. Interpass Temp.	500°F		

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position HORIZONTAL
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Cleaning Requirements WIRE BRUSH, GRINDING	
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 	Shielding Gas 	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
	3/16"	1	1	3/32"	DCRP	100		22	3 IPM			
	1/4"	1	1	3/32"	DCRP	100		22	2.4 IPM			
	5/16"	1	1	3/32"	DCRP	100		22	3 IPM			
		2	2-3	3/32"	DCRP	100		22	3 IPM			
	3/8"	1	1	3/32"	DCRP	100		22	3 IPM			
		2	2-3	3/32"	DCRP	100		22	3 IPM			
	1/2"	1-3	1-5	3/32"	DCRP	100		22	3 IPM			
Remarks 				CWB Acceptance 					Engineer's Approval 			

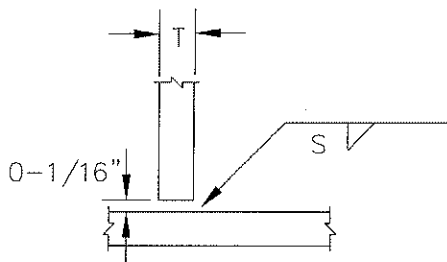
SAMPLE

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

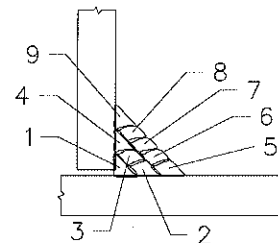
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-4H	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position HORIZONTAL
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Cleaning Requirements WIRE BRUSH, GRINDING	
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

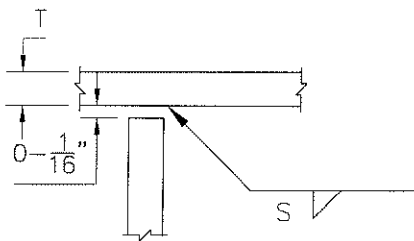
COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size	Shielding Gas	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
	5/8"	1	1	3/32"	DCRP	100		22	2.6 IPM			
		2,3	2-6	3/32"	DCRP	100		22	2.6 IPM			
	3/4"	1	1	3/32"	DCRP	100		22	2.4 IPM			
		2,3	2-9	3/32"	DCRP	100		22	2.4 IPM			
Remarks				CWB Acceptance					Engineer's Approval			
									<div style="transform: rotate(-30deg); font-size: 2em; opacity: 0.5;">SAMPLE</div>			

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

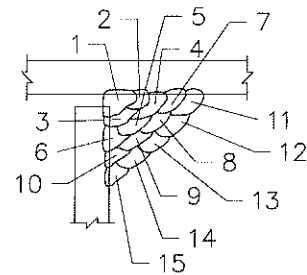
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-1V	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position VERTICAL UP
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59	
Cleaning Requirements WIRE BRUSH, GRINDING		



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 	Shielding Gas 	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
	3/16"	1	1	1/8"	DCRP	110		24	8 IPM			
	1/4"	1	1	1/8"	DCRP	110		24	5 IPM			
	5/16"	1-2	1-3	1/8"	DCRP	110		24	10 IPM			
	3/8"	1	1	1/8"	DCRP	110		24	8 IPM			
		2	2-3	1/8"	DCRP	110		24	6 IPM			
	1/2"	1	1	1/8"	DCRP	110		24	4 IPM			
		2	2-3	1/8"	DCRP	110		24	4 IPM			
	5/8"	1-4	1-10	1/8"	DCRP	110		24	4 IPM			
	3/4"	1-5	1-15	1/8"	DCRP	110		24	4 IPM			
Remarks 				CWB Acceptance 					Engineer's Approval 			

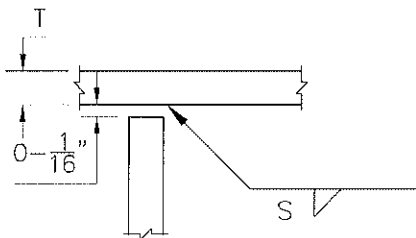
SAMPLE

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

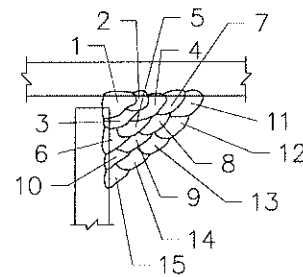
WELDING PROCEDURE DATA SHEET

NO. CS-M-F-2V	REV. 0
Date: JAN 2010	CSA W47.1
Wldg. Procedure Specification No. SMA-CS	
Applicable Standards	W47.1, W59
Electrode (Wire) Classification	E4918/E7018
Trade Name	
Shielding Gas	
Preheat Temp.	AS PER W59 TABLE 5.3
Min. Interpass Temp.	AS PER W59 TABLE 5.3
Max. Interpass Temp.	500°F

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Tungsten Type Tungsten Size Welding Position VERTICAL UP Cleaning Requirements WIRE BRUSH, GRINDING
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic		
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

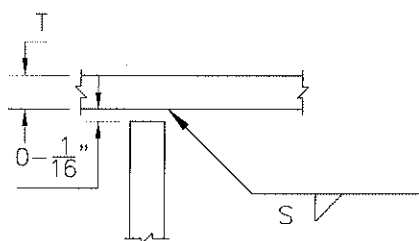
COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 	Shielding Gas 	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
	3/16"	1	1	3/32"	DCRP	100		22				
	1/4"	1	1	3/32"	DCRP	100		22				
	5/16"	1-2	1-3	3/32"	DCRP	100		22				
	3/8"	1	1	3/32"	DCRP	100		22				
		2	2-3	3/32"	DCRP	100		22				
	1/2"	1	1	3/32"	DCRP	100		22				
		2	2-3	3/32"	DCRP	100		22				
	5/8"	1-4	1-10	3/32"	DCRP	100		22				
	3/4"	1-5	1-15	3/32"	DCRP	100		22				
Remarks				CWB Acceptance					Engineer's Approval			
									<div style="text-align: center; font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">SAMPLE</div>			

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

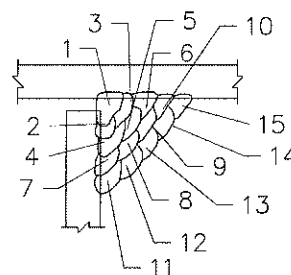
WELDING PROCEDURE DATA SHEET

NO.	CS-M-F-10	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		SMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		E4918/E7018	
Trade Name			
Shielding Gas			
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process	<input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Made	<input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Tungsten Type	
Base Metal Alloy Group/Type		Tungsten Size	
STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		Welding Position	OVERHEAD
		Cleaning Requirements	WIRE BRUSH, GRINDING



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

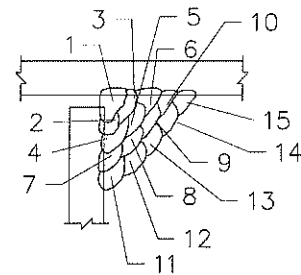
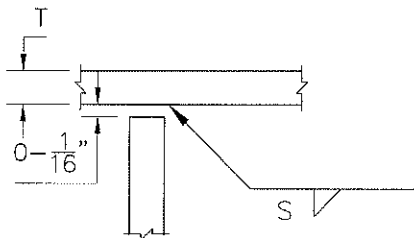
COMPLETE JOINT PENETRATION GROOVE WELD				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE		Nozzle Size	Shielding Gas	Electrical Stickout	
<input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal								<input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE					
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other		
	3/16"	1	1	1/8"	DCRP	130		24	8 IPM				
	1/4"	1	1	1/8"	DCRP	130		24	5 IPM				
	5/16"	1-2	1-3	1/8"	DCRP	130		24	10 IPM				
	3/8"	1	1	1/8"	DCRP	130		24	8 IPM				
		2	2-3	1/8"	DCRP	130		24	6 IPM				
	1/2"	1	1	1/8"	DCRP	130		24	4 IPM				
		2	2-3	1/8"	DCRP	130		24	4 IPM				
	5/8"	1-4	1-10	1/8"	DCRP	130		24	4 IPM				
	3/4"	1-5	1-15	1/8"	DCRP	130		24	4 IPM				
Remarks				CWB Acceptance						Engineer's Approval			
										<div style="text-align: center; font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">SAMPLE</div>			

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

NO. CS-M-F-20	REV. 0
Date: JAN 2010	CSA W47.1
Wldg. Procedure Specification No. SMA-CS	
Applicable Standards	W47.1, W59
Electrode (Wire) Classification	E4918/E7018
Trade Name	
Shielding Gas	
Preheat Temp.	AS PER W59 TABLE 5.3
Min. Interpass Temp.	AS PER W59 TABLE 5.3
Max. Interpass Temp.	500°F

Welding Process <input checked="" type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW) <input type="checkbox"/> Pulsed	<input type="checkbox"/> Pulsed
Process Mode <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Machine <input type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic		
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		
Tungsten Type Tungsten Size Welding Position OVERHEAD Cleaning Requirements WIRE BRUSH, GRINDING		



TYPICAL JOINT PREPARATION

TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size	Shielding Gas	Electrical Stickout
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
	3/16"	1	1	3/32"	DCRP	100		22	3 IPM			
	1/4"	1	1	3/32"	DCRP	100		22	2.4 IPM			
	5/16"	1-2	1-3	3/32"	DCRP	100		22	4.7 IPM			
	3/8"	1	1	3/32"	DCRP	100		22	3 IPM			
		2	2-4	3/32"	DCRP	100		22	3 IPM			
	1/2"	1	1	3/32"	DCRP	100		22	3 IPM			
		2-3	2-5	3/32"	DCRP	100		22	3 IPM			
	5/8"	1-4	1-8	3/32"	DCRP	100		22	2.6 IPM			
	3/4"	1-5	1-15	3/32"	DCRP	100		22	4.9 IPM			
Remarks				CWB Acceptance						Engineer's Approval		
										<div style="text-align: center; font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">SAMPLE</div>		

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

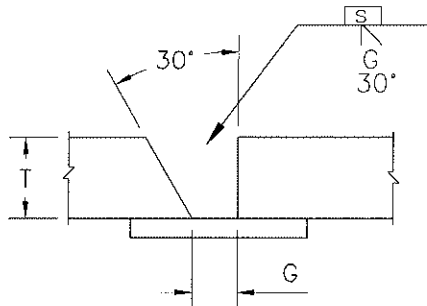
WELDING PROCEDURE DATA SHEET

NO.	CS-G-4-1F	REV.	0
Date:	JAN 2010	CSA	W47.1

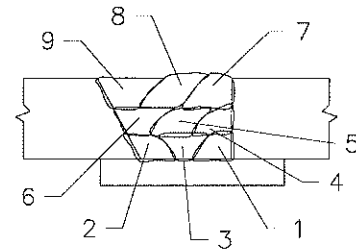
Wldg. Procedure Specification No. GMA-CS

Welding Process	<input type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input checked="" type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed	Applicable Standards	W47.1, W59
Process Mode	<input type="checkbox"/> Manual <input type="checkbox"/> Machine <input checked="" type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	Tungsten Type		Electrode (Wire) Classification	B-G 49A 3C G6
Base Metal Alloy Group/Type	STEEL GROUPS, 1, 2 & 3 TABLES 11.1 & 12.1 CSA W59			Trade Name	ER49S-6
Cleaning Requirements	WIRE BRUSH, GRINDING			Shielding Gas	75% AR-25% CO2
				Preheat Temp.	AS PER W59 TABLE 5.3
				Min. Interpass Temp.	AS PER W59 TABLE 5.3
				Max. Interpass Temp.	500°F

PREQUALIFIED AS PER CSA W59, G4-2



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

G=1/2" MIN.

COMPLETE JOINT PENETRATION GROOVE WELD				<input type="checkbox"/> FILLET WELD			JOINT TYPE		Nozzle Size	Shielding Gas	Electrical Stickout
<input checked="" type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD			<input type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE		1/2" to 5/8"	40 CFH	1/2" to 5/8"
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other
3/8"	3/8"	1-3	1-9	0.035"	DCRP	230	500	29	10 IPM		SPRAY TRANSFER

Remarks	CWB Acceptance	Engineer's Approval

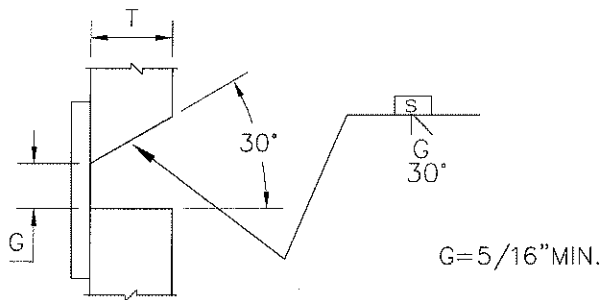
SAMPLE

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

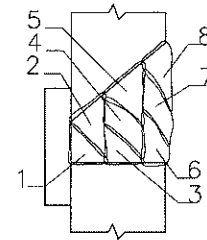
WELDING PROCEDURE DATA SHEET

NO.	CS-G-4-1H	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.	GMA-CS		
Applicable Standards	W47.1, W59		
Electrode (Wire) Classification	B-G 49A 3C G6		
Trade Name	ER49S-6		
Shielding Gas	75% AR-25% CO2		
Preheat Temp.	AS PER W59 TABLE 5.3		
Min. Interpass Temp.	AS PER W59 TABLE 5.3		
Max. Interpass Temp.	500°F		

Welding Process	<input type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input checked="" type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Mode	<input type="checkbox"/> Manual <input checked="" type="checkbox"/> Semi-Automatic <input type="checkbox"/> Machine <input type="checkbox"/> Automatic	Tungsten Type	Tungsten Size
Base Metal Alloy Group/Type	STEEL GROUPS, 1, 2 & 3 TABLES 11.1 & 12.1 CSA W59		Welding Position
			Cleaning Requirements
			WIRE BRUSH, GRINDING



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input checked="" type="checkbox"/> Welded onto temporary backing <input checked="" type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal	<input type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____	JOINT TYPE <input checked="" type="checkbox"/> BUTT <input type="checkbox"/> CORNER <input type="checkbox"/> LAP <input type="checkbox"/> TEE <input type="checkbox"/> EDGE	Nozzle Size 1/2" to 5/8"	Shielding Gas 40 CFH	Electrical Stickout 1/2" to 5/8"
--	--	--	-----------------------------	-------------------------	-------------------------------------

Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other
3/8"	3/8"	1-3	1-8	0.035"	DCRP	230	500	29	19 IPM		SPRAY TRANSFER

Remarks	CWB Acceptance	Engineer's Approval
		<div style="text-align: center; font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">SAMPLE</div>

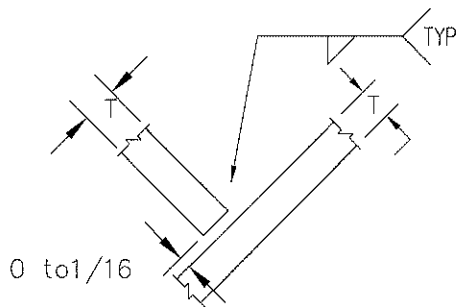
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

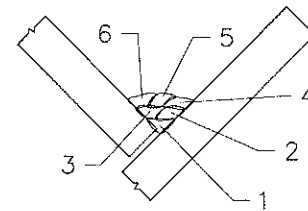
NO.	CS-G-F-2F	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		GMA-CS	
Applicable Standards		W47.1, W59	
Electrode (Wire) Classification		B-G 49A 3C G6	
Trade Name		ER49S-6	
Shielding Gas		75% AR-25% CO2	
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process	<input type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input checked="" type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Mode	<input type="checkbox"/> Manual <input checked="" type="checkbox"/> Semi-Automatic	<input type="checkbox"/> Machine <input type="checkbox"/> Automatic	
Base Metal Alloy Group/Type	STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		
Tungsten Type			
Tungsten Size			
Welding Position	FLAT		
Cleaning Requirements	WIRE BRUSH, GRINDING		

PREQUALIFIED PER CSA W59, CLAUSE 10.1.1.3



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD				<input checked="" type="checkbox"/> FILLET WELD				JOINT TYPE		Nozzle Size	Shielding Gas	Electrical Stickout
<input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				<input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE		1/2" to 5/8"	40 CFH	1/2" to 5/8"
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
	1/8"	1	1	0.035"	DCRP	230	500	27	30 IPM		SPRAY TRANSFER	
	3/16"	1	1	0.035"	DCRP	230	500	27	13 IPM		SPRAY TRANSFER	
	1/4"	1	1	0.035"	DCRP	230	500	27	10 IPM		SPRAY TRANSFER	
	5/16"	1-2	1-2	0.035"	DCRP	230	500	27	13 IPM		SPRAY TRANSFER	
	3/8"	1-2	1-3	0.035"	DCRP	230	500	27	13 IPM		SPRAY TRANSFER	
	1/2"	1-2	1-3	0.035"	DCRP	230	500	27	7.6 IPM		SPRAY TRANSFER	
	3/4"	1-3	1-6	0.035"	DCRP	230	500	27	7.5 IPM		SPRAY TRANSFER	

Remarks	CWB Acceptance	Engineer's Approval

SAMPLE

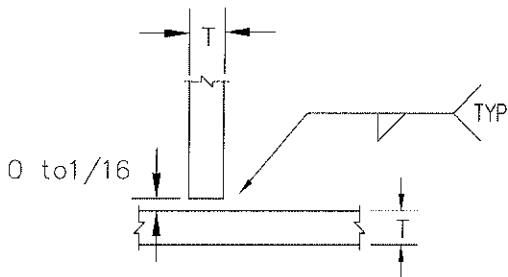
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

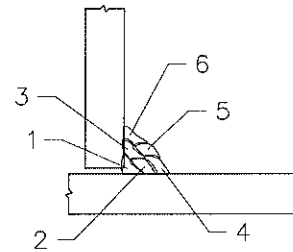
NO. CS-G-F-2H	REV. 0
Date: JAN 2010	CSA W47.1
Wldg. Procedure Specification No. GMA-CS	
Applicable Standards W47.1, W59	
Electrode (Wire) Classification B-G 49A 3C G6	
Trade Name ER49S-6	
Shielding Gas 75% AR-25% CO2	
Preheat Temp. AS PER W59 TABLE 5.3	
Min. Interpass Temp. AS PER W59 TABLE 5.3	
Max. Interpass Temp. 500°F	

Welding Process <input type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW) <input checked="" type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed Tungsten Type Tungsten Size Welding Position HORIZONTAL Cleaning Requirements WIRE BRUSH, GRINDING
Process Mode <input type="checkbox"/> Manual <input type="checkbox"/> Machine <input checked="" type="checkbox"/> Semi-Automatic <input type="checkbox"/> Automatic	
Base Metal Alloy Group/Type STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59	

PREQUALIFIED PER CSA W59, CLAUSE 10.1.1.3



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE		Nozzle Size 1/2" to 5/8"	Shielding Gas 40 CFH	Electrical Stickout 1/2" to 5/8"
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
	1/8"	1	1	0.035"	DCRP	230	500	27	30 IPM		SPRAY TRANSFER	
	3/16"	1	1	0.035"	DCRP	230	500	27	13 IPM		SPRAY TRANSFER	
	1/4"	1	1	0.035"	DCRP	230	500	27	10 IPM		SPRAY TRANSFER	
	5/16"	1-2	1-2	0.035"	DCRP	230	500	27	13 IPM		SPRAY TRANSFER	
	3/8"	1-2	1-3	0.035"	DCRP	230	500	27	13 IPM		SPRAY TRANSFER	
	1/2"	1-2	1-4	0.035"	DCRP	230	500	27	10 IPM		SPRAY TRANSFER	
	3/4"	1-3	1-6	0.035"	DCRP	230	500	27	7 IPM		SPRAY TRANSFER	

Remarks	CWB Acceptance	Engineer's Approval

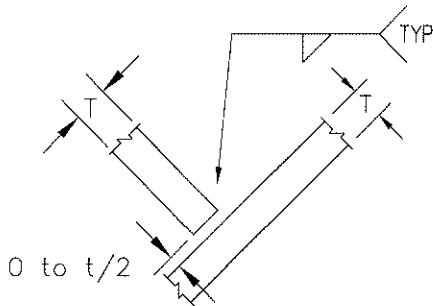
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

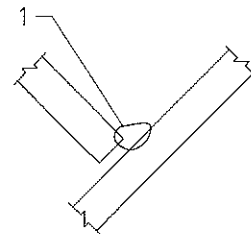
NO.	CS-G-F-1F	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		GMA-CS	
Applicable Standards		W47.1, D1.3	
Electrode (Wire) Classification		B-G 49A 3C G6	
Trade Name		ER49S-6	
Shielding Gas		75%Ar-25% CO2	
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process	<input type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input checked="" type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Mode	<input type="checkbox"/> Manual <input checked="" type="checkbox"/> Semi-Automatic <input type="checkbox"/> Machine <input type="checkbox"/> Automatic	Tungsten Type	Tungsten Size
Base Metal Alloy Group/Type		Cleaning Requirements	
STEEL GROUPS, 1,2 &3 TABLES 11.1 & 12.1 CSA W59		WIRE BRUSH, GRINDING	

PREQUALIFIED PER AWS D1.3; FIGURE 3.2C



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD				<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				JOINT TYPE		Nozzle Size	Shielding Gas	Electrical Stickout
<input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal								<input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE		1/2" to 5/8"	40 CFH	1/2" to 5/8"
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (Joules)	Other	
	14ga	1	1	0.035"	DCRP	80	100	18	28 IPM			
	13ga	1	1	0.035"	DCRP	80	100	18	28 IPM			
	12ga	1	1	0.035"	DCRP	80	100	18	19 IPM			
	10ga	1	1	0.035"	DCRP	130	175	20	20 IPM			
	9ga	1	1	0.035"	DCRP	160	225	21	20 IPM			
	8ga	1	1	0.035"	DCRP	160	225	21	18 IPM			
	7ga	1	1	0.035"	DCRP	175	250	22	16 IPM			
Remarks				CWB Acceptance						Engineer's Approval		
										<div style="text-align: center; font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">SAMPLE</div>		

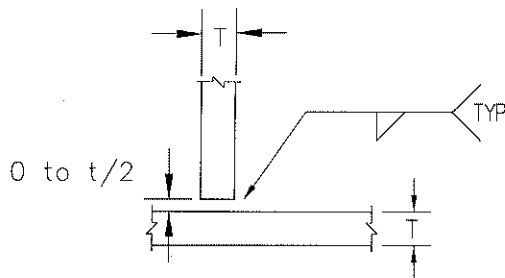
NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

WELDING PROCEDURE DATA SHEET

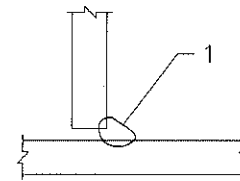
NO.	CS-G-F-1H	REV.	0
Date:	JAN 2010	CSA	W47.1
Wldg. Procedure Specification No.		GMA-CS	
Applicable Standards		W47.1, D1.3	
Electrode (Wire) Classification		B-G 49A 3C G6	
Trade Name		ER49S-6	
Shielding Gas		75%Ar-25% CO2	
Preheat Temp.		AS PER W59 TABLE 5.3	
Min. Interpass Temp.		AS PER W59 TABLE 5.3	
Max. Interpass Temp.		500°F	

Welding Process	<input type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input checked="" type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Mode	<input type="checkbox"/> Manual <input checked="" type="checkbox"/> Semi-Automatic <input type="checkbox"/> Machine <input type="checkbox"/> Automatic	Tungsten Type	Tungsten Size
Base Metal Alloy Group/Type		Cleaning Requirements	
STEEL GROUPS, 1, 2 & 3 TABLES 11.1 & 12.1 CSA W59		WIRE BRUSH, GRINDING	

PREQUALIFIED PER AWS D1.3; FIGURE 3.2B



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD <input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal	<input checked="" type="checkbox"/> FILLET WELD <input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____	JOINT TYPE <input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE	Nozzle Size	Shielding Gas	Electrical Stickout
			1/2" to 5/8"	40 CFH	1/2" to 5/8"

Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other
	14ga	1	1	0.035"	DCRP	80	100	18	28 IPM		
	13ga	1	1	0.035"	DCRP	80	100	18	28 IPM		
	12ga	1	1	0.035"	DCRP	80	100	18	19 IPM		
	10ga	1	1	0.035"	DCRP	130	175	20	20 IPM		
	9ga	1	1	0.035"	DCRP	160	225	21	20 IPM		
	8ga	1	1	0.035"	DCRP	160	225	21	18 IPM		
	7ga	1	1	0.035"	DCRP	175	250	22	16 IPM		

Remarks	CWB Acceptance	Engineer's Approval

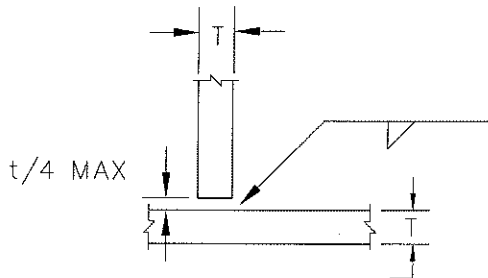
SAMPLE

NEEGINAN INSTITUTE OF APPLIED TECHNOLOGY WINNIPEG, MANITOBA

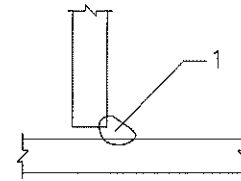
WELDING PROCEDURE DATA SHEET

NO. CS-G-F-1VD	REV. 0
Date: JAN 2010	CSA W47.1
Wldg. Procedure Specification No. GMA-CS	
Applicable Standards	W47.1, D1.3
Electrode (Wire) Classification	B-G 49A 3C G6
Trade Name	ER49S-6
Shielding Gas	75%Ar-25% CO2
Preheat Temp.	AS PER W59 TABLE 5.3
Min. Interpass Temp.	AS PER W59 TABLE 5.3
Max. Interpass Temp.	500°F

Welding Process <input type="checkbox"/> Shielded Metal (SMAW) <input type="checkbox"/> Flux Core (FCAW) <input type="checkbox"/> Metal Core (MCAW) <input type="checkbox"/> Submerged (SAW)	<input checked="" type="checkbox"/> Gas Metal (GMAW) <input type="checkbox"/> Gas Tungsten (GTAW)	<input type="checkbox"/> Pulsed <input type="checkbox"/> Pulsed
Process Mode <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Semi-Automatic <input type="checkbox"/> Machine <input type="checkbox"/> Automatic	Tungsten Type Tungsten Size Welding Position VERT DOWN	
Base Metal Alloy Group/Type STEEL GROUPS, 1, 2 & 3 TABLES 11.1 & 12.1 CSA W59	Cleaning Requirements WIRE BRUSH, GRINDING	



TYPICAL JOINT PREPARATION



TYPICAL PASS AND LAYER SEQUENCE

COMPLETE JOINT PENETRATION GROOVE WELD				FILLET WELD				JOINT TYPE		Nozzle Size	Shielding Gas	Electrical Stickout
<input type="checkbox"/> Welded onto temporary backing <input type="checkbox"/> Welded onto permanent backing <input type="checkbox"/> Welded with no backing <input type="checkbox"/> Back-gouged to sound metal				<input type="checkbox"/> PARTIAL JOINT PENETRATION GROOVE WELD <input type="checkbox"/> OTHER _____				<input type="checkbox"/> BUTT <input checked="" type="checkbox"/> CORNER <input checked="" type="checkbox"/> LAP <input checked="" type="checkbox"/> TEE <input type="checkbox"/> EDGE		1/2" to 5/8"	40 CFH	1/2" to 5/8"
Mat'l Thk.	Weld Size/ETT	Layer No.	Pass No.	Filler Dia. (Inches)	Current Polarity	Current (Amps) ±10%	Wire Feed Speed (IPM) ±10%	Voltage (Volts) ±10%	Welding Speed (IPM) ±10%	Heat Input (joules)	Other	
	14ga	1	1	0.035"	DCRP	80	100	18	28 IPM			
	13ga	1	1	0.035"	DCRP	80	100	18	28 IPM			
	12ga	1	1	0.035"	DCRP	80	100	18	19 IPM			
	10ga	1	1	0.035"	DCRP	130	175	20	20 IPM			
	9ga	1	1	0.035"	DCRP	160	225	21	20 IPM			
	8ga	1	1	0.035"	DCRP	160	225	21	18 IPM			
	7ga	1	1	0.035"	DCRP	175	250	22	16 IPM			

Remarks	CWB Acceptance	Engineer's Approval
		SAMPLE